

ABSTRACT

Introduction

Clavicle fracture account for approximately 2.6% of all fractures and for 44 % to 66% fractures about the shoulder. Middle third fractures account for 80% of all clavicle fractures whereas fractures of lateral and medial third of the clavicle account for 15% and 5 % respectively. Most minimally displaced clavicle fractures can be successfully treated non-operatively with some forms of immobilization

Aim of the study:

To evaluate the functional outcome of “open reduction and internal fixation with locking compression plate” and “conservative management with figure of eight clavicle brace” in treating displaced middle third clavicular fracture as measured by Constant & Murley score

Materials and methods

Plain radiograph of clavicle with shoulder in antero-posterior view was taken to assess the site of fracture and the fracture type (displacement and comminution). The fractures were classified according to **Robinson’s** classification. Patients were then allotted randomly into two groups. Patients selected for conservative treatment with figure of eight Clavicle Brace and arm sling/pouch were treated with the brace immediately. Patients selected for surgery were operated as early as possible once the general condition of the patients were stable and the patients were fit for surgery as assessed by the physician. All patients were followed up every week for 2 weeks post treatment and thereafter every 6th week, 3rd month, 6th month and at 1 year.

Radiographs are taken at immediate post treatment period, 6 weeks, 3 months, 6 months and one year. Features of healing and functional outcome were looked for with help of Constant and Murleys scoring system at the time of injury, 6 weeks, 3 months, 6 months and one year. Also evidence of implant breakage, non-union, infection was also looked for.

Result:

The patients functional outcome were measured using Constant and Murley scoring system and it was found that patient treated surgically had significantly better functional outcome at 6 weeks, 3 months, 6 months and 12 months respectively when compared to conservative group. The complications we faced in surgical group were 2 cases of infection, 2 cases with implant failure in which surgical group and four cases of non union in conservative group which were in par with the non-union rates in standard literatures. There was also two case of superficial skin infection in surgical group.

Discussion:

In our study we compared two accepted treatment modalities of fracture mid-third clavicle called open reduction and plating with locking compression plate and conservative treatment with figure of eight clavicle brace in terms of outcome. In our study, out of 36 patients with fracture mid-third clavicle, 26 patients (72.2%) sustained fracture as a result of fall from bike due to road traffic accident and 10 patients (27.8%) sustained fracture due to direct fall on shoulder . All were direct injuries(100%). In our study, the average age of patients with fracture mid third clavicle was found to be 45.11 in surgical group and 45.33 in conservative

group. The youngest patient was of 18 year for conservative and 25 year for surgical group. The oldest patient in surgical group was 59 years old and conservative group it was 64 years. In our study, out of 36 patients, 16 were male(44%) and 20 were female(56%). Number of male patients in surgical group was 7 while in conservative group it was 9. The number of female patients were 11 and 9 in surgical and conservative group respectively.

Conclusion

It was observed that patients who underwent surgical treatment had better functional outcome in terms of early ROM and so return to work was earlier compared to conservative group. According to present study, surgery can be recommended over conservative treatment in patients with displaced mid-third fracture clavicle

Key words: Functional outcome, ROM, Conservative group, Plate and Screw fixation.